Message

From: Kelly, Shaheerah [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=93B5AC12171C4246AF92572984EED4ED-SFATEEN]
Sent: 3/18/2014 8:54:27 PM
To: Kevin Mills [KMills@technip.com]
CC: Cheryl Sandifer [CSandifer@technip.com]; John Strawn [JStrawn@technip.com]; Rex Jaime [RJaime@technip.com]
Subject: RE: Waste Gasification Emissions Criteria Determination

Kevin,

Based on the information you provided, the unit appears to meet the definition of a new municipal waste combustor.

A *municipal waste combustor (MWC),* or *municipal waste combustor unit* (MWC unit) means any setting or equipment that combusts solid, liquid, or gasified municipal solid waste including, but not limited to, field-erected incinerators (with or without heat recovery), modular incinerators (starved-air or excess-air), boilers (i.e., steam generating units), furnaces (whether suspension-fired, grate-fired, mass-fired, air curtain incinerators, or fluidized bed-fired), and pyrolysis/combustion units. Municipal waste combustors do not include pyrolysis/combustion units located at a plastics/rubber recycling unit (as specified in §60.50b(m)). Municipal waste combustors do not include cement kilns firing municipal solid waste (as specified in §60.50b(p)). Municipal waste combustors do not include internal combustion engines, gas turbines, or other combustion devices that combust landfill gases collected by landfill gas collection systems.

The MWC regulations are here:

- **Large MWC NSPS:** http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr;sid=032e902341db8873af7fe153511e9f67;rgn=div6;view=text;node=40%3A7.0.1.1.1.15;idno=40;cc=ecfr
  40 CFR part 60 subpart Eb (Construction Commenced After September 20, 1994 or Modification or Reconstructions Commenced After June 19, 1996)

- **Small MWC NSPS:** http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr;sid=dd4e12f59b76d216ec3d7735bb72fc9f;rgn=div6;view=text;node=40%3A7.0.1.1.1.90;idno=40;cc=ecfr
  40 CFR part 60 subpart AAAA (Construction Commenced After August 30, 1999 or Modification or Reconstruction is Commenced After June 6, 2001)

The MWC rules have a few exemptions. I roughly list them below (please see the exact regulatory text for more info); it is critical to note that a unit meeting one of these exemptions may be subject to another incinerator regulation.

- Cement Kilns
- Co-fired unit incinerating <30% MWC
- MWC capable of >250 tpd permitted <11 tpd
- Pyrolosis (plastic/rubber recycle)
- Combust fuels made from products of plastic/ rubber recycling
- Single item stream of tires

CAA section 129 also contain a few statutory exemptions for the incinerator regulations. Again, rough list below.

- Permit under Section 3005 of the Solid Waste Disposal Act
- Materials recovery facilities (+primary and secondary smelters) for the primary purpose of recovering metals
- Qualifying small power production facilities
- Qualifying cogeneration facilities
- Air curtain incinerators burning clean wood/yard waste and comply with opacity limitations to be established by rule

The only other CAA 129 off ramp is if the waste material met RCRA's legitimacy criteria to be considered a "non-waste fuel" under the NHSM rule (info here: http://www.epa.gov/waste/nonhaz/define/index.htm).

Please contact me if you have any questions.

Regards,

****
Shaheerah Kelly
Permits Office, Air Division (AIR-3)
U.S. Environmental Protection Agency, Region 9
San Francisco, CA 94105
Phone: 415-947-4156
Fax: 415-947-3579
Email: kelly.shaheerah@epa.gov

From: Kevin Mills [mailto:KMills@technip.com]
Sent: Monday, March 03, 2014 10:06 AM
To: Kelly, Shaheerah
Cc: Cheryl Sandifer; John Strawn; Rex Jaime
Subject: Waste Gasification Emissions Criteria Determination

Shaheerah,

Thank you for your assistance regarding this matter.

The process overview is as follows:

1. The MSW is presorted for metals, large glass, and PVC.

2. The presorted MSW is fed in thru the top of a gasifier, whereas a cupola is outfitted to an expanding elutriation zone.

3. Air, coke, and Natural Gas are fed at mid height in the cupola, creating a very hot zone (2100F), the hot gases percolate up thru the Waste, liberating moisture and volatile matter. The fixed carbon falls into the hot zone. Any metals, glass, or mineral matter are melted and flow out thru a port in the bottom of the cupola as slag. It is estimated that the volatile gases are held up at temperature for nearly 2 seconds prior to being combusted,

4. The resulting volatile gases are ducted to a gas boiler,

5. The gas boiler utilizes Natural Gas temperature maintenance burners, and air ports to maintain a fire ball in the boiler.

6. The exhaust gases come over top of the boiler and travel downwards in a superheater section, and then up again into an economizer section,

7. Hoppers located at the bottom of the superheater and economizer sections recirculate the accumulated ash back to the cupola to be melted and ejected from the system as slag,

8. The exhaust from the boiler is to be treated per EPA standards...to be determined.

Please do not hesitate to call if you have any comments or questions.

Regards,

Kevin J. Mills, PE
Projects
Technip USA, Inc.
555 West Arrow Highway
Claremont, CA 91711-4805
909 447-3977
951 712-7137 cell

Technip Stone & Webster Process Technology - 555 West Arrow Highway, Claremont, California 91711 USA
Tel (Direct): +1 909-447-3977 – e-mail: kmills@technip.com